| INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) | Docket Number: GP-00102.P.1.1 | Application Number: 10/804,645 |
|---|---|---|
| | Applicant: Giavanni Paternostro | |
| | Filing Date: March 19, 2004 | Group Art Unit: 1646 |

**U.S. PATENT DOCUMENTS**

| EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB-CLASS | FILING DATE IF APPROPRIATE |
|---|---|---|---|---|---|---|---|
| GH | P1 | 2002/0161302 | 10/2002 | Paternostro | | | |
| | P2 | | | | | | |

**FOREIGN PATENT DOCUMENTS**

| EXAMINER INITIAL | | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUB-CLASS | Translation | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | YES | NO |
| | F1 | | | | | | | |

**OTHER DOCUMENTS**
(Including Author, Title, Date, Pertinent Pages, Etc.)

| EXAMINER INITIALS | | CITATION |
|---|---|---|
| GH | D1 | Stockwell, Brent. Chemical Genetics: Ligand-Based Discovery of Gene Function. Nature Reviews Genetics 1:116-125 (2000) |
| | D2 | Fortini, Mark, Skupski, Marian, Boguski, Mark and Hariharan, Iswar. A survey of human disease gene counterparts in the drosophila genome. Journ Cell Bio. 150(2)F23-F29 (2000) |
| | D3 | Donnelly, David F, Jiang, Chun, and Haddad, Gabriel. Comparative responses of brain stem and hippocampal neurons to O2 deprivation: in vitro intracellular studies. Am J Physil 262:L549-L554 (1992) |
| | D4 | Krishnan, Santosh, Sun, Yi-An, Mohsenin, Amir, Wyamn, Robert J., Haddad, Gabriel G. Behavioral and electrophysiologic responses of Drosophila malanogaster to prolonged periods of anoxia. J Insect Physiol 43(3):203-210 (1997) |

| Examiner Signature | | Date Considered | 1/13/05 |
|---|---|---|---|

| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | | |
|---|---|---|
| EXAMINER INITIALS | | CITATION |
| JH | D5 | Haddad, Gabriel G. Enhancing our understanding of the molecular responses to hypoxia in mammals using Drosophila melanogaster. J Appl Physiol 88:1481-1487 (2000) |
| | D6 | Wingrove, Janes, and O'Farrell Patrick H. Nitric oxide contributes to behavioral, cellular, and developmental responses to low oxygen in Drosophila. Cell 98:105-114 (1999) |
| | D7 | Smith, C.J., and Fischer, T.H. 2001. Particulate and vapor phase constituents of cigarette mainstream smoke and risk of myocardial infarction. *Atherosclerosis* 158:257-267. |
| | D8 | Paternostro, G., Vignola, C., Bartsch, D.U., Omens, J.H., McCulloch, A.D., and Reed, J.C. 2001. Age-associated cardiac dysfunction in Drosophila melanogaster. *Circulation Research* 88:1053-1058. |
| | D9 | Gray, I.C., Campbell, D.A., and Spurr, N.K. 2000. Single nucleotide polymorphisms as tools in human genetics. *Hum Mol Genet* 9:2403-2408 |
| | D10 | Adams, M.D., Celniker, S.E., Holt, R.A., Evans, C.A., Gocayne, J.D., Amanatides, P.G., Scherer, S.E., Li, P.W., Hoskins, R.A., Galle, R.F., et al. 2000. The genome sequence of Drosophila melanogaster. *Science* 287:2185-2195 |
| | D11 | Bodmer, R., and Venkatesh, T.V. 1998. Heart development in Drosophila and vertebrates: conservation of molecular mechanisms. *Developmental Genetics* 22:181-186 |
| | D12 | Lints, T.J., Parsons, L.M., Hartley, L., Lyons, I., and Harvey, R.P. 1993. Nkx-2.5: a novel murine homeobox gene expressed in early heart progenitor cells and their myogenic descendants. *Development* 119:419-431 |
| | D13 | Komuro, I., and Izumo, S. 1993. Csx: a murine homeobox-containing gene specifically expressed in the developing heart. *Proceedings of the National Academy of Sciences of the United States of America* 90:8145-8149 |

| Examiner Signature | Joan Hu | Date Considered | 1/13/05 |
|---|---|---|---|

| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | | |
|---|---|---|
| EXAMINER INITIALS | | CITATION |
| JH | D14 | Curran, M.E., Splawski, I., Timothy, K.W., Vincent, G.M., Green, E.D., and Keating, M.T. 1995. A molecular basis for cardiac arrhythmia: HERG mutations cause long QT syndrome. *Cell* 80:795-803 |
| | D15 | Warmke, J.W., and Ganetzky, B. 1994. A family of potassium channel genes related to eag in Drosophila and mammals. *Proc Natl Acad Sci U S A* 91:3438-3442 |
| | D16 | Min, K.T., and Benzer, S. 1999. Preventing neurodegeneration in the Drosophila mutant bubblegum. *Science* 284:1985-1988 |
| | D17 | Kazemi-Esfarjani, P., and Benzer, S. 2000. Genetic suppression of polyglutamine toxicity in Drosophila. *Science* 287:1837-1840 |
| | D18 | Feany, M.B., and Bender, W.W. 2000. A Drosophila model of Parkinson's disease. *Nature* 404:394-398 |
| | D19 | ~~Lin, Y.J., Seroude,~~ L., and Benzer, S. 1998. Extended life-span and stress resistance in the Drosophila mutant methuselah. *Science* 282:943-946 |
| JH | D20 | Lakatta, E.G. 2001. Heart aging: a fly in the ointment? *Circulation Research* 88:984-986 |
| | D21 | Fleg, J.L., O'Connor, F., Gerstenblith, G., Becker, L.C., Clulow, J., Schulman, S.P., and Lakatta, E.G. 1995. Impact of age on the cardiovascular response to dynamic upright exercise in healthy men and women. *Journal of Applied Physiology* 78:890-900 |
| | D22 | Piacentini, L., and Karliner, J.S. 1999. Altered gene expression during hypoxia and reoxygenation of the heart. *Pharmacol Ther* 83:21-37 |
| | D23 | Weiss, J., and Hiltbrand, B. 1985. Functional compartmentation of glycolytic versus oxidative metabolism in isolated rabbit heart. *J Clin Invest* 75:436-447 |

| Examiner Signature | | Date Considered | 1/13/05 |
|---|---|---|---|

| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | | |
|---|---|---|
| EXAMINER INITIALS | | CITATION |
| QH | D24 | Cross, H.R., Radda, G.K., and Clarke, K. 1995. The role of Na+/K+ ATPase activity during low flow ischemia in preventing myocardial injury: a 31P, 23Na and 87Rb NMR spectroscopic study. *Magn Reson Med* 34:673-685 |
| | D25 | Jennings, R.B., Reimer, K.A., and Steenbergen, C. 1986. Myocardial ischemia revisited. The osmolar load, membrane damage, and reperfusion. *J Mol Cell Cardiol* 18:769-780 |
| | D26 | Steenbergen, C., Murphy, E., Levy, L., and London, R.E. 1987. Elevation in cytosolic free calcium concentration early in myocardial ischemia in perfused rat heart. *Circ Res* 60:700-707 |
| | D27 | Ambrosio, G., Weisfeldt, M.L., Jacobus, W.E., and Flaherty, J.T. 1987. Evidence for a reversible oxygen radical-mediated component of reperfusion injury: reduction by recombinant human superoxide dismutase administered at the time of reflow. *Circulation* 75:282-291 |
| | D28 | Meerson, F.Z., Kagan, V.E., Kozlov Yu, P., Belkina, L.M., and Arkhipenko Yu, V. 1982. The role of lipid peroxidation in pathogenesis of ischemic damage and the antioxidant protection of the heart. *Basic Res Cardiol* 77:465-485 |
| | D29 | Kloner, R.A., Przyklenk, K., and Whittaker, P. 1989. Deleterious effects of oxygen radicals in ischemia/reperfusion. Resolved and unresolved issues. *Circulation* 80:1115-1127 |
| | D30 | Gottlieb, R.A., Burleson, K.O., Kloner, R.A., Babior, B.M., and Engler, R.L. 1994. Reperfusion injury induces apoptosis in rabbit cardiomyocytes. *J-Clin-Invest* 94:1621-1628 |
| ↓ | D31 | Fliss, H., and Gattinger, D. 1996. Apoptosis in ischemic and reperfused rat myocardium. *Circulation Research* 79:949-956 |

| Examiner Signature | | Date Considered | 1/13/05 |
|---|---|---|---|

| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | | |
|---|---|---|
| EXAMINER INITIALS | | CITATION |
| JH | D32 | de Moissac, D., Gurevich, R.M., Zheng, H., Singal, P.K., and Kirshenbaum, L.A. 2000. Caspase activation and mitochondrial cytochrome C release during hypoxia-mediated apoptosis of adult ventricular myocytes. *J Mol Cell Cardiol* 32:53-63 |
| | D33 | Chen, M., He, H., Zhan, S., Krajewski, S., Reed, J.C., and Gottlieb, R.A. 2001. Bid is cleaved by calpain to an active fragment in vitro and during myocardial ischemia/reperfusion. *J Biol Chem* 276:30724-30728 |
| | D34 | Webster, K.A., Discher, D.J., Kaiser, S., Hernandez, O., Sato, B., and Bishopric, N.H. 1999. Hypoxia-activated apoptosis of cardiac myocytes requires reoxygenation or a pH shift and is independent of p53. *J Clin Invest* 104:239-252 |
| | D35 | Kang, P.M., Haunstetter, A., Aoki, H., Usheva, A., and Izumo, S. 2000. Morphological and molecular characterization of adult cardiomyocyte apoptosis during hypoxia and reoxygenation. *Circ Res* 87:118-125 |
| | D36 | Law, M.R., Morris, J.K., and Wald, N.J. 1997. Environmental tobacco smoke exposure and ischaemic heart disease: an evaluation of the evidence. *Bmj* 315:973-980 |
| | D37 | Headrick, J.P. 1998. Aging impairs functional, metabolic and ionic recovery from ischemia-reperfusion and hypoxia-reoxygenation. *J Mol Cell Cardiol* 30:1415-1430 |
| | D38 | Bak, M.I., Wei, J.Y., and Ingwall, J.S. 1998. Interaction of hypoxia and aging in the heart: analysis of high energy phosphate content. *J Mol Cell Cardiol* 30:661-672 |
| | D39 | Lesnefsky, E.J., Moghaddas, S., Tandler, B., Kerner, J., and Hoppel, C.L. 2001. Mitochondrial dysfunction in cardiac disease: ischemia--reperfusion, aging, and heart failure. *J Mol Cell Cardiol* 33:1065-1089 |

| Examiner Signature | | Date Considered | 1/13/05 |
|---|---|---|---|

| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | | |
|---|---|---|
| EXAMINER INITIALS | | CITATION |
| JH | D40 | Mariani, J., Ou, R., Bailey, M., Rowland, M., Nagley, P., Rosenfeldt, F., and Pepe, S. 2000. Tolerance to ischemia and hypoxia is reduced in aged human myocardium. *J Thorac Cardiovasc Surg* 120:660-667 |
| | D41 | Bacon, N.C., Wappner, P., O'Rourke, J.F., Bartlett, S.M., Shilo, B., Pugh, C.W., and Ratcliffe, P.J. 1998. Regulation of the Drosophila bHLH-PAS protein Sima by hypoxia: functional evidence for homology with mammalian HIF-1 alpha. *Biochem Biophys Res Commun* 249:811-816 |
| | D42 | Bruick, R.K., and McKnight, S.L. 2001. A conserved family of prolyl-4-hydroxylases that modify HIF. *Science* 294:1337-1340 |
| | D43 | O'Farrell, P.H. 2001. Conserved responses to oxygen deprivation. *J Clin Invest* 107:671-674 |
| | D44 | Haddad, G.G., Sun, Y., Wyman, R.J., and Xu, T. 1997. Genetic basis of tolerance to O2 deprivation in Drosophila melanogaster. *Proc Natl Acad Sci U S A* 94:10809-10812 |
| | D45 | Ma, E., Gu, X.Q., Wu, X., Xu, T., and Haddad, G.G. 2001. Mutation in pre-mRNA adenosine deaminase markedly attenuates neuronal tolerance to O2 deprivation in Drosophila melanogaster. *J Clin Invest* 107:685-693 |
| | D46 | Nusslein-Volhard, C., and Wieschaus, E. 1980. Mutations affecting segment number and polarity in Drosophila. *Nature* 287:795-801 |
| | D47 | ~~Nusslein-Volhard, C.,~~ and Wieschaus, E. 1980. Mutations affecting segment number and polarity in Drosophila. *Nature* 287:795-801 |
| JH | D48 | White, K., Grether, M.E., Abrams, J.M., Young, L., Farrell, K., and Steller, H. 1994. Genetic control of programmed cell death in Drosophila. *Science* 264:677-683 |
| | D49 | Artavanis-Tsakonas, S., Muskavitch, M.A., and Yedvobnick, B. 1983. Molecular cloning of Notch, a locus affecting neurogenesis in Drosophila melanogaster. *Proc Natl Acad Sci U S A* 80:1977-1981 |

| Examiner Signature | | Date Considered | 1/13/05 |
|---|---|---|---|

| OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) | | |
|---|---|---|
| EXAMINER INITIALS | | CITATION |
| QH | D50 | Reiter, L.T., Potocki, L., Chien, S., Gribskov, M., and Bier, E. 2001. A Systematic Analysis of Human Disease-Associated Gene Sequences In Drosophila melanogaster. *Genome Research* 11:1114-1125 |
| | D51 | Spradling, A.C., Stern, D., Beaton, A., Rhem, E.J., Laverty, T., Mozden, N., Misra, S., and Rubin, G.M. 1999. The Berkeley Drosophila Genome Project gene disruption project: Single P-element insertions mutating 25% of vital Drosophila genes. *Genetics* 153:135-177 |
| | D52 | Greenspan, R.J. 2001. The flexible genome. *Nat Rev Genet* 2:383-387 |
| | D53 | Miquel, J., Lundgren, P.R., Bensch, K.G., and Atlan, H. 1976. Effects of temperature on the life span, vitality and fine structure of Drosophila melanogaster. *Mechanisms of Ageing & Development* 5:347-370 |
| | D54 | |

| Examiner Signature | | Date Considered | 1/13/05 |
|---|---|---|---|